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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/034,383	12/27/2001	Christopher Pasqualino	13311US02	8696
23446 7590 09/10/2009 MCANDREWS HELD & MALLOY, LTD 500 WEST MADISON STREET SUITE 3400 CHICAGO, IL 60661				
EXAMINER YENKE, BRIAN P				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/034,383

**Applicant(s)**

PASQUALINO ET AL.

**Examiner**

BRIAN P. YENKE

**Art Unit**

2622

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on Response (06/15/09).
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3,5-12,15,16,18,19,22-24,27,29 and 267 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) all the above is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Response to Arguments***

***Applicants Arguments***

a) Applicant states that none of the references discloses "concatenating at least one data bit onto each one of the plurality of color components splits from said pixel".

b) Applicant states that since each of the code words of the IBM disclosure includes three ones and three zeros there would be no need to add additional bits for DC balancing.

c) Applicant states that IBM's mapping of the sixteen colors to 16 different 6 bit codes "eliminates low frequencies from the spectrum, permits AC coupling and provides for a large dynamic range." Applicant states that these properties would not be present if IBM were modified to split the red, green and blue components.

d) Applicant states that it would not be possible to modify IBM since all 20 of the possible code words are already allocated in IBM.

***Examiner's Response***

a) The examiner disagrees. The combination of references discloses that a data bit may be added to color components (via the IBM disclosure) wherein color components may be split (is met by Macinnis) thus once split, they would have to be concatenated individually.

b) The examiner disagrees. The examiner requests the applicant to clarify that the code words in the IBM disclosure are inherently DC balanced, thus not requiring an extra bit for DC balancing. If inherently so, then in the event an extra bit was added to the code words for additional information (since as stated in the rejection add bits to codewords is conventional) than DC balancing by adding an extra bit would then be required.

c) The examiner requests the applicant to clarify that by separating the colors, low frequencies would be present, AC coupling would not be permitted and a large dynamic range could not be provided in order for the examiner to address any future arguments.

d) The examiner disagrees as stated above the adding of a bit(s) to a code word is conventional and the addition of a bit(s) to such word could necessitate adding an additional bit for DC balancing.

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1a. Claims 1, 2, 22 and 27 are rejected under 35 U.S.C. 103(a) as being obvious over 1988 IBM Technical Disclosure #NN8812461 in view of Copeland et al., US 6,304,196, in view of Macinnis et al., US 5,914,725,

The IBM Technical disclosure describes an interface for interfacing a controller/pc system and its CRT display. As described the interface includes circuitry for "encoding" video for transmission between the controller/pc system and its CRT display, wherein the interface includes:

1) A multiplexer for concatenating at least one data (e.g. that which represents horizontal sync, vertical sync, and/or the serial data channel signal/command data) the red, green, blue, and intensity component of the video signal; and

2) A block code arrangement for balancing the entire multiplexed data stream, via the utilization only "balanced" codes, thereby eliminating low frequencies from the spectrum" while permitting 'AC coupling'.

Although, the concept of adding additional bits to an existing sequence/component in order to proper DC balance it was known to add additional bits to ensure proper DC balancing of the encoded signal for proper AC coupling the examiner nonetheless incorporates Copeland (see background/prior art discussion).

Therefore, it would have been clearly obvious to one of ordinary skill in the art at the time of the invention to modify the IBM disclosure which encodes video for transmission and permits AC coupling to add additional bits as done conventionally (Copeland discussion on Prior Art) for the advantages as noted above.

Regarding the splitting a pixel into a plurality of color components, is not disclosed by the combination of IBM/Copeland however, such representation/splitting of pixels is conventional practice to represent a pixel by the 3 basic color components (RGB), although this is conventional in the art, the examiner incorporates MacInnis et al., US 5,914,725, (col 7, line 14-24). Since IBM discloses the use of such RGB components, and that a source may be from a composite signal, this would require receiving/registering, then splitting in order to access the color components.

In considering claim 27,

The IBM Technical disclosure describes an interface for interfacing a controller/pc system and its CRT display as was set forth above with respect to the limitations of claim 22.

Claim 27 differs from the system described in the technical disclosure only in that said claims specify said concatenated data as being "status" data/information.

The examiner maintains that it would have been obvious to use the "data channel" of the interface described in the IBM disclosure to carry any kind of auxiliary data that was conventionally associated with transmitted video data (i.e. be it sound/audio or status information).

1b. Claims 3, 7-11 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over 1988 IBM Technical Disclosure #NN8812461 in view of Copeland et al., US 6,304,196 and in view of MacInnis et al., US 5,914,725,

The IBM Technical disclosure describes an interface for interfacing a controller/pc system and its CRT display as was set forth above with respect the limitations of claim 1.

Claims 3 and 7-11 differ from the system described in the technical disclosure only in that said claims recite steps for correcting the video signal for erroneous pixels caused by transmission errors via various forms of pixel replacement (i.e. via replacement with a previously received correct value or a value obtained by the interpolation/averaging of surrounding correct pixel values);

Although it is conventional to have added overhead bits/data (e.g. such as CRC codes and/or hamming bits) to transmitted video data to detect and correct erroneous transmission errors; interpolation pixel values caused by wherein substitution and represent notoriously well known ways of generating replacement pixel values.

Copeland (col 4, line 1-20) discloses the use of CRC/checksum bits, therefore it would have been obvious to one of ordinary skill in the art to have modified the interface described in the IBM technical disclosure with such conventional overhead data to allow erroneous pixels to be replace using well known pixel replacement techniques performance immunity.

1c. Claims 5 and 26 are rejected under 35 U.S.C. 103(a) as being obvious over 1988 IBM Technical Disclosure #NN8812461 in view of Copeland et al., US 6,304,196, in view of MacInnis et al., US 5,914,725 in view of XP-002202474.

In considering claims 5 and 26,

The combination of IBM/Copeland/MacInnis does not disclose the audio onto color components as claimed.

Regarding the newly amended concatenating audio data onto said at least one color component. As stated in the previous rejection IBM describes an interface which includes circuitry for "encoding" video for transmission between the controller/pc system and its CRT display. Thus although, IBM/Copeland does not explicitly recite "audio", the examiners position is that video/audio are conventionally transmitted/received together for display/listening.

The examiner will rely upon applicant's submitted XP-002202474, which evidences the concept of linking/concatenating the audio with video in a DVI link system.

Therefore it would have been obvious to one of ordinary skill in the art to modify IBM/Copeland which discloses a interfacing/system method between a controller/pc system and a CRT display by linking the audio and video data (color component) together as done by XP-002202474 in order to provide the consumer the conventional ability to view and listen to desired programs.

1d. Claim 29 is rejected under 35 U.S.C. 103(a) as being obvious over 1988 IBM Technical Disclosure #NN8812461 in view of Copeland et al., US 6,304,196, in view of MacInnis et al., US 5,914,725 in view of XP-002202474 and Kim, US 6,954,491

Regarding the new amended "...during the blanking interval", although the above cited combination does not explicitly recite this feature, the examiner will evidence the concept of examining data bits to detect a blanking interval, as evidenced by cites Van Dem Hombergh et al., US 5,119,200 (col 6, line 47-67).

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Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination above, which discloses encoding video as stated above, by detecting when such blanking intervals occurs, this feature of reception/decoding is required to identify when data or non-data/blanking portions are being received.

**Conclusion**

2. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Yenke whose telephone number is (571)272-7359. The examiner's work schedule is Monday-Thursday, 0730-1830 hrs.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's Supervisor, David L. Ometz, can be reached at (571)272-7593.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

**or faxed to:**

**(571)-273-8300**

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703)305-HELP.



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(FAX) 703-305-7786

(TDD) 703-305-7785

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Application/Control Number: 10/034,383  
Art Unit: 2622

Page 9

/BRIAN P. YENKE/  
Primary Examiner, Art Unit 2622

B.P.Y  
01 Sep 09